

SMITH – Serial No. 10/002,616

Amendments to the Claims:

The following claims will replace all prior versions of the claims in this application (in the unlikely event that no claims follow herein, the previously pending claims will remain):

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1. (Currently Amended) Polyethylene having:
 - a weight average molecular weight in the range of 150,000-1,000,000 g/mol;
 - a number average molecular weight of at least 25,000 g/mol;
 - a polydispersity in the range of 1.3-10; and
 - ~~a wear coefficient of less than $3.2 \cdot 10^{-4} \text{ mm}^3/\text{mN}$~~

wherein said polyethylene comprises co-monomer, said co-monomer being present in an amount up to 4wt%.
2. (Original) The polyethylene of claim 1, wherein said polyethylene has a wear coefficient below $2.9 \cdot 10^{-4} \text{ mm}^3/\text{mN}$.
3. (Original) Polyethylene having:
 - a melt viscosity of less than 10^6 Pa.s ; and
 - a wear coefficient below $2.4 \cdot 10^{-4} \text{ mm}^3/\text{mN}$.
4. (Previously Amended) The polyethylene according to claim 1, wherein said polyethylene has a weight average molecular weight below 700,000 g/mol.
5. (Previously Amended) The polyethylene according to claim 1, wherein said polyethylene has a weight average molecular weight below 500,000 g/mol.
6. (Previously Amended) The polyethylene according to claim 1, wherein said polyethylene has a weight average molecular weight of at least 250,000 g/mol.
7. (Currently Cancelled).

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8. (Currently Amended) The polyethylene according to claim 1, wherein said polyethylene has a co-monomer content in the range of 0.5 - 5 4 wt%.
9. (Previously Amended) The polyethylene according to claim 1, wherein said polyethylene has a wear coefficient below $2.0 \cdot 10^{-4} \text{ mm}^3/\text{mN}$.
10. (Previously Amended) The polyethylene according to claim 1, wherein said polyethylene has a polydispersity below 5.
11. (Previously Amended) The polyethylene according to claim 1, wherein said polyethylene has a polydispersity in the range of 2-4.
12. (Previously Amended) The polyethylene according to claim 1, wherein said polyethylene has a melting point of at least 100°C .
13. (Previously Amended) The polyethylene according to claim 1, wherein said polyethylene has a melt viscosity of less than $5 \cdot 10^5 \text{ Pa.s}$.
14. (Previously Amended) The polyethylene according to claim 1, wherein said polyethylene has a number average molecular weight of at least 100,000 g/mol.
15. (Previously Amended) A process comprising melt-processing the polyethylene according to claim 1.
16. (Original) The process of claim 15, wherein said process includes injection molding said polyethylene.
17. (Previously Amended) An article obtained by the process according to claim 15.
18. (Previously Amended) An article comprising the polyethylene according to claim 1.

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19. (Previously Cancelled).

20. (Original) A sliding member comprising a polyethylene, said polyethylene having:
a weight average molecular weight below 1,000,000 g/mol; and
a wear coefficient of less than $3.2 \cdot 10^{-4} \text{ mm}^3/\text{mN}$.

21. (Previously Added) The polyethylene according to claim 3, wherein said polyethylene has a weight average molecular weight below 700,000 g/mol.

22. (Previously Added) The polyethylene according to claim 3, wherein said polyethylene has a weight average molecular weight below 500,000 g/mol.

23. (Previously Added) The polyethylene according to claim 3, wherein said polyethylene has a weight average molecular weight of at least 250,000 g/mol.

24. (Previously Added) The polyethylene of according to claim 3, wherein said polyethylene has a co-monomer content of less than 10 mol%.

25. (Previously Added) The polyethylene according to claim 3, wherein said polyethylene has a co-monomer content in the range of 0.5-5 wt%.

26. (Previously Added) The polyethylene according to claim 3, wherein said polyethylene has a wear coefficient below $2.0 \cdot 10^{-4} \text{ mm}^3/\text{mN}$.

27. (Previously Added) The polyethylene according to claim 3, wherein said polyethylene has a polydispersity below 5.

28. (Previously Added) The polyethylene according to claim 3, wherein said polyethylene has a polydispersity in the range of 2-4.

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29. (Previously Added) The polyethylene according to claim 3, wherein said polyethylene has a melting point of at least 100° C.

30. (Previously Added) The polyethylene according to claim 3, wherein said polyethylene has a melt viscosity of less than $5 \cdot 10^5$ Pa.s.

31. (Previously Added) The polyethylene according to claim 3, wherein said polyethylene has a number average molecular weight of at least 100,000 g/mol.

32. (Previously Added) A process comprising melt-processing the polyethylene according to claim 3.

33. (Previously Added) The process of claim 32, wherein said process includes injection molding said polyethylene.

34. (Previously Added) An article obtained by the process according to claim 32.

35. (Previously Added) An article comprising the polyethylene according to claim 3.

36. (Currently Added) The polyethylene of claim 1, wherein said polyethylene has a wear coefficient of less than $3.2 \cdot 10^{-4}$ mm³/mN.